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BEFORE THE UTAH AIR QUALITY BOARD

In Re: Approval Order – PSD Major Modification to Add New Unit 3 at Intermountain Power Generating Station, Millard County, Utah Project Code: N0327-010 DAQE-AN0327010-04	:	MOTION FOR SUMMARY JUDGMENT AND MEMORANDUM IN SUPPORT OF MOTION

The Utah Chapter of the Sierra Club (Sierra Club) respectfully moves for Summary Judgment on the claims in Statements of Reasons # 20, 21, and 22 of its Second Amended Request for Agency Action,[1] and for an order by the Air Quality Board (Board) remanding the Approval Order (AO) for Unit 3 to the Division of Air Quality and the Executive Secretary (collectively "DAQ") for further proceedings. In support of its motion, Sierra Club submits the following memorandum, together with the attached exhibits and affidavits.

[1] Sierra Club submitted a motion to amend its request for agency action on February 16, 2007 after the production of the administrative record. Because the stipulated schedule approved by the Board requires that the first round of dispositive motions be filed by February 26, 2007, Sierra Club submits this motion for summary judgment in anticipation that the Board will grant the motion to amend the request for agency action.

Introduction

The Sierra Club moves for summary judgment on three claims, which require an immediate remand of the Unit 3 AO to the DAQ for further proceedings. As specified in Statement of Reasons # 22, the Board must remand the AO because, under the applicable regulations, the AO is now invalid because more than 18 months have passed since DAQ issued the AO without construction beginning on the project. In addition, after the Unit 3 AO expired by operation of law, DAQ issued a decision in August 2006 approving a modification to the AO to change the approved boiler technology from subcritical to supercritical, without following the process required by the Utah air quality regulations and the terms of the permit itself, and without notice to the public of the proposed changes and an opportunity to comment as required by the regulations. DAQ's decision to accept the proposed change to a supercritical boiler was arbitrary and capricious, and contrary to law, and the Board must remand the AO to the DAQ for further analysis of, and public comment on, the proposed change. Sierra Club respectfully requests that the Board grant summary judgment on these claims and remand the AO to DAQ for further proceedings.

Legal Standards

Summary Judgment

The Utah Administrative Procedures Act allows the Board to decide issues in this administrative appeal on a motion for summary judgment if the moving party meets the requirements of Rule 56 of the Utah Rules of Civil Procedure.[2] Under Rule 56(c), summary judgment is appropriate only "if the pleadings, depositions, answers to

[2] Utah Code Ann. § 63-46b-1(4)(b).

interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law."[3] Because summary judgment will cut off any discovery and presentation of expert testimony, the Board must "examine all of the facts presented and the inferences to be drawn therefrom in the light most favorable to the nonmoving party."[4] The first question the Board must answer is whether there are any disputed issues of fact regarding the claim or claims on which a party is moving for judgment. If there are no disputed factual issues, the Board must then decide – based on the undisputed facts – whether the party that filed the motion should get judgment as a matter of law.

The purpose of a summary judgment motion is not "to judge the credibility of the averments of the parties, or witnesses, or the weight of the evidence,"[5] but rather the purpose is to avoid a trial on an issue when, even viewing the facts in the light most favorable to the non-moving party, the non-moving party cannot prevail.[6] The Sierra Club submits this motion for summary judgment based on the pleadings in this matter, the Administrative Record, and the exhibits and affidavits attached to this memorandum. Because the facts related to Sierra Club's motion are undisputed in the record, the Board can address the second summary judgment question: whether the Sierra Club is entitled to judgment as a matter of law. Based on the applicable regulations and the provisions of the AO itself, the Sierra Club is entitled to judgment as a matter of law on the claims in

[3] Utah R. Civ. P. 56(c).
[4] Grynberg v. Questar Pipeline Company, 2003 UT 8, ¶ 20, 70 P.3d 1 (2003).
[5] W.M. Barnes Co. v. Sohio Natural Res. Co., 627 P.2d 56, 59 (Utah 1981) (citation omitted).
[6] Draper City v. Estate of Bernardo, 888 P.2d 1097, 1101 (Utah 1995).

Statement of Reasons # 20, # 21, and # 22 that the AO has expired and that DAQ's decision in August 2006 to approve a change to a supercritical boiler, without changing the terms and conditions of the AO and without allowing public notice and comment, was arbitrary and capricious, and contrary to the law, regulations, and required procedures.

Standard for Review of Legal Issues and DAQ's Decisions

Under the Utah Administrative Procedures Act (UAPA), the Board makes findings of fact and conclusions of law regarding the issues raised in a request for agency action.[7] As the Utah Supreme Court has noted, the Board is "vested with adjudicative functions,"[8] and sits in the same position with respect to the DAQ as a reviewing court sits with respect to a final action by an agency. The adjudicative nature of this proceeding requires the Board to apply the review provisions listed in the UAPA when reviewing DAQ decisions: the Board should grant relief if "it determines that a person seeking judicial review has been substantially prejudiced by" any of twelve deficiencies in the action the Board is reviewing.[9] Under the UAPA, a party is substantially

[7] Utah Code Ann. § 63-46b-10(1)(a)-(d) ("… the presiding officer shall sign and issue an order that includes: (a) a statement of the presiding officer's findings of fact based exclusively on the evidence of record in the adjudicative proceedings or on facts officially noted; (b) a statement of the presiding officer's conclusions of law; (c) a statement of the reasons for the presiding officer's decision; (d) a statement of any relief ordered by the agency").

[8] Utah Chapter of the Sierra Club v. Air Quality Bd., 2006 UT 74, ¶ 12, 148 P.3d 960.

[9] Utah Code Ann. § 63-46b-16(4). This section provides, in full, that
(4) The appellate court shall grant relief only if, on the basis of the agency's record, it determines that a person seeking judicial review has been substantially prejudiced by any of the following:
(a) the agency action, or the statute or rule on which the agency action is based, is unconstitutional on its face or as applied;
(b) the agency has acted beyond the jurisdiction conferred by any statute;
(c) the agency has not decided all of the issues requiring resolution;
(d) the agency has erroneously interpreted or applied the law;

prejudiced if "the agency has erroneously interpreted or applied the law," or if "the agency has engaged in an unlawful procedure or decision-making process, or has failed to follow prescribed procedures," or if "the agency action is based upon a determination of fact, made or implied by the agency, that is not supported by substantial evidence," or if "the agency action is … contrary to a rule of the agency … contrary to the agency's prior practice, unless the agency justifies the inconsistency by giving facts and reasons that demonstrate a fair and rational basis for the inconsistency; or …otherwise arbitrary or capricious."[10]

Under the Utah Air Conservation Act, the Board has the power to "hold hearings relating to any aspect of or matter in the administration of this chapter" and "issue orders necessary to enforce the provisions of this chapter."[11] By contrast, the power conferred by the Legislature on the Executive Secretary is subject to the Board's superior authority: "as authorized by the board subject to the provisions of this chapter, [the Executive Secretary may] enforce rules through the issuance of orders, including: … (ii) requiring the construction of new control facilities or any parts of new control facilities or the

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(e) the agency has engaged in an unlawful procedure or decision-making process, or has failed to follow prescribed procedure;
(f) the persons taking the agency action were illegally constituted as a decision-making body or were subject to disqualification;
(g) the agency action is based upon a determination of fact, made or implied by the agency, that is not supported by substantial evidence when viewed in light of the whole record before the court;
(h) the agency action is:
(i) an abuse of the discretion delegated to the agency by statute;
(ii) contrary to a rule of the agency;
(iii) contrary to the agency's prior practice, unless the agency justifies the inconsistency by giving facts and reasons that demonstrate a fair and rational basis for the inconsistency; or
(iv) otherwise arbitrary or capricious.

[10] Utah Code Ann. §§ 63-46b-16(4)(d), (e), (g), (h).
[11] Utah Code Ann. § 19-2-104(3)(a)-(b).

modification, extension, or alteration of existing control facilities or any parts of new control facilities."[12] Because the Utah Air Conservation Act specifies that the Board has the ultimate decision-making power within the Division of Air Quality, the Board must review the Executive Secretary's decisions without deference, and the Board is required under the UAPA make its own, independent findings of fact and conclusions of law regarding the issues raised in a request for agency action.[13]

Statement of Undisputed Material Facts

1. On October 15, 2004, Richard W. Sprott, Executive Secretary of the Utah Air Quality Board, signed the AO authorizing the construction and operation of an additional 950 MW coal-fired power plant unit at the Intermountain Power Plant in Millard County, Utah (DAQE-AN0327010-04)(Project Code: N0327-010). Exhibit 1 (Unit 3 Approval Order) at 1, AR IPSC 4331.[14]

Facts Related to Statement of Reasons # 22

2. Condition No. 8 of the AO provided that "If construction and/or installation has not been completed within eighteen months from the date of this AO, the Executive Secretary shall be notified in writing on the status of the construction and/or installation. At that time, the Executive Secretary shall require documentation of the continuous construction and/or installation of the operation

[12] Utah Code Ann. § 19-2-107(2)(g)(2).
[13] Utah Code Ann. § 63-46b-10(1)(a)-(d) ("… the presiding officer shall sign and issue an order that includes: (a) a statement of the presiding officer's findings of fact based exclusively on the evidence of record in the adjudicative proceedings or on facts officially noted; (b) a statement of the presiding officer's conclusions of law; (c) a statement of the reasons for the presiding officer's decision; (d) a statement of any relief ordered by the agency").
[14] Citations to the "AR" are to the Administrative Record in this matter. In addition to selections from the Administrative Record attached as exhibits to this motion, Sierra Club will provide copies of the cited documents to the Board upon request.

and may revoke the AO in accordance with R307-401-11." Exhibit 1 at 5, AR IPSC 4336.

3. Eighteen months after the date of the AO – on or about April 15, 2005 – IPSC did not submit the required notification of the status of construction. See Exhibit 2 (Final Preliminary Index to the Administrative Record).

4. Eighteen months after the date of the AO – on or about April 15, 2006 – the Executive Secretary made no determination regarding a revocation of the AO, nor whether an extension of the AO was justified. See Exhibit 2 (Final Preliminary Index to the Administrative Record).

Facts Related to Statements of Reasons # 20 & # 21

5. Condition 4 of the AO provided that "Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved in accordance with R307-401-1." Exhibit 1 at 3, AR IPSC 4334.

6. Condition 6 of the AO provided that "Intermountain Power Service Corporation (IPSC) shall install and operate the nominal 950 gross-MW power generating Unit 3 with dry-bottom pulverized coal fired boiler and modified equipment associated with Unit 3, as defined by this AO, in accordance with the terms and conditions of this AO, which was written pursuant to IPSC's Notice of Intent submitted to the Division of Air Quality (DAQ) on December 16, 2002 and significant additional information provided throughout the process." Exhibit 1 at 3, AR IPSC 4334.

7. Condition 7 of the AO provided that "The approved installations shall consist of the following equipment or equivalent* … * Equivalency shall be determined by the Executive Secretary." Exhibit 1 at 4-5, AR IPSC 4334-35.

8. In its August 24, 2004 Response to Comments on the Unit 3 Draft AO, IPSC answered Sierra Club's statement that DAQ and IPSC should have considered a supercritical pulverized coal (PC) boiler for Unit 3. IPSC asserted, among other statements, that :

- "an additional subcritical boiler [is] more appropriate [than a supercritical boiler] based on safety, environmental, and economic considerations."
- "Having two different operating cycles [for subcritical Units 1 and 2 and for a supercritical Unit 3] could pose problems with safe operation of the units if operators switch from one unit to the other."
- "If operators are dedicated to the new unit only, additional staff will be required."
- "With the low proposed emission limits for With the low proposed emission limits for SO_2, NO_X, and particulates [in the draft AO], the actual reduction in tons per year does not warrant the increase in capital costs, safety, and equipment compatibility issues associated with a supercritical boiler.
- "There are reliability concerns with supercritical in favor os subcritical boiler design."

Exhibit 3 (IPP Response to Public Comments Received by UDAQ on the Draft Approval Order IPP Unit 3), AR IPSC 3891.

9. In its October 14, 2004 Response to Comments on the Intent to Approve for IPSC Unit 3, DAQ also responded to Sierra Club's statement that DAQ and IPSC should have considered a supercritical PC boiler for Unit 3. The agency stated that: "a top-down analysis including supercritical boiler technology, though not required, was provided. That analysis shows that supercritical boilers would not be appropriate for the IPP project." Exhibit 4 (UDAQ Response to Comments

received on IPSC Intent to Approve number DAQE-IN327010-04), AR IPSC 4297.

10. On August 4, 2006, the Utah Associated Municipal Power Systems (hereafter referred to as "IPSC") made a request by letter to DAQ notifying the agency of the intent to change the technology for the proposed IPSC Unit 3 from a subcritical to a supercritical pulverized coal fired boiler. Exhibit 5 (Letter to Rick Sprott, DAQ, from Douglas O. Hunter re: Equivalency Determination), AR IPSC 4473-77.

11. In its August 4, 2006 letter, IPSC stated that "[i]nstallation of a supercritical boiler will result in a net decrease in emissions as measured in lbs/MWh." Exhibit 5 at 3, AR IPSC 4475.

12. In its August 4, 2006 letter, IPSC stated, in comparing subcritical and supercritical boiler technology, that "there is approximately a three percent improvement in heat rate between the two cycles, thereby increasing the power output" of the supercritical technology "for the same coal burned in the boiler." Exhibit 5 at 2, AR IPSC 4474.

13. On August 17, 2006, DAQ responded that if found "in accordance with Condition 7 of the Approval Order number DAQE-AN0327010-04, a supercritical PC boiler is equivalent to the permitted unit," thereby approving the modification IPSC requested. Exhibit 6 (Letter to Doug Hunter from Rick Sprott, DAQ, re: Equivalency Determination, August 17, 2006), AR IPSC 4478. DAQ did not approve any other changes to the AO. See id.

14. The Administrative Record contains no analysis to support the Executive Secretary's determination. See Exhibit 2 (Final Preliminary Index to the Administrative Record).

15. There was no notice to the public of the proposed modification of the AO, and no opportunity for public comment, before the Executive Secretary approved the modification of the AO. See Exhibit 2 (Final Preliminary Index to the Administrative Record).

Argument

1. The Approval Order for Unit 3 is Invalid and the Board Must Remand the AO to DAQ Because 18 Months Have Passed Since Approval Without Commencement of Construction and Without Reevaluation and Extension by the Executive Secretary (Statement of Reasons # 22)

The AO for Unit 3 must be remanded to the DAQ because the AO is no longer valid under Utah and federal regulations and by the terms of the AO itself. The applicable regulations provide that an AO to construct a source "shall become invalid if construction if not commenced within 18 months after receipt of such approval."[15] This federal regulation has been in effect since at least 1975,[16] and is incorporated into the Utah air quality regulations by Utah Administrative Code R307-405-19(1).[17]

[15] 40 C.F.R. § 52.21(r)(2); Utah Admin. Code R307-405-19(1).
[16] See Grand Canyon Trust v. Tucson Elec. Power Co., 391 F.3d 979, 982 n.1 (9th Cir. 2004).
[17] This regulation, listed under "Source Obligations" in the Prevention of Significant Deterioration regulations, provides that "the provisions of 40 C.F.R. 52.21(r), effective March 3, 2003, are hereby incorporated by reference." Utah Admin. Code R307-405-19(1). The permittee is also bound by these regulations by the provisions in the AO itself, which provides that "[t]his AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including R307." Exhibit 1 at 13, AR IPSC 4344.

Although the regulation also provides that the agency "may extend the 18-month period upon a satisfactory showing that an extension is justified,"[18] the Administrative Record in this matter shows that, after 18 months – on or about April 15, 2006 – IPSC did not offer any showing that an extension was justified, nor did the Executive Secretary extend the 18-month period before that period ended.[19] Nowhere in the Administrative Record does it show that construction has begun on Unit 3.[20] Indeed, although Condition 8 of the AO specifically provides that "[i]f construction and/or installation has not been completed within eighteen months from the date of this AO, the Executive Secretary shall be notified in writing on the status of the construction and/or installation," the Administrative Record shows that IPSC did not provide the required notification.[21]

Two federal courts that have considered the federal regulation incorporated in R307-405-19(1) have concluded that a permit "automatically expires" when 18 months pass from the approval of the permit without commencement of construction.[22] Specifically, the Ninth Circuit Court of Appeals found that

> a permit automatically becomes invalid in the enumerated circumstances unless the administrator exercises discretionary authority to extend the permit. On a natural reading of the language, administrative action is only required to forestall invalidation of a permit. No agency action is required to invalidate a permit if construction is not timely commenced.[23]

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[18] 40 C.F.R. § 52.21(r)(2), incorporated by reference in R307-405-19(1).
[19] See Exhibit 2 (Final Preliminary Index to the Administrative Record). The Administrative Record contains no documents dated between September 8, 2005 and August 4, 2006. Id. at 12. April 15, 2006 – 18 months after the date of the AO – falls within this empty date range.
[20] See id.
[21] Exhibit 1 at 5, AR 4336; see Exhibit 2 (Final Preliminary Index to the Administrative Record).
[22] Grand Canyon Trust, 391 F.3d at 981 & 982 n.1; Roosevelt Campobello Int'l Park Comm'n v. EPA, 684 F.2d 1034, 1037 (1st Cir. 1982).
[23] Grand Canyon Trust, 391 F.3d at 981.

It is undisputed that the Executive Secretary did not extend the permit within the 18-month period required under the regulations. This automatic expiration is significant, because – notwithstanding there has been no stay of the AO since October 15, 2004 – it means that the AO to construct Unit 3 is now invalid, and has been since April 15, 2006. Any application to construct Unit 3 must be presented to the DAQ for consideration under current circumstances, subject to today's laws and regulations.[24] Because the AO is now invalid, IPSC must submit an updated Notice of Intent to DAQ – presumably incorporating a supercritical boiler described in the August 4, 2006 AO modification request – and re-initiate the AO process to obtain approval to construct Unit 3. Because the AO is invalid, the Board must remand this matter to DAQ and require IPSC to re-submit the Notice of Intent, with whatever modifications IPSC considers warranted by its proposed change in boiler technology and by current factual and legal circumstances.

Furthermore, remand to the DAQ is necessary for re-consideration of the terms and conditions of the AO because the Executive Secretary did not make a determination, after 18 months, of whether changed circumstances required him to revoke the AO at that time. The AO and the DAQ regulations both provide expressly for Executive Secretary review 18 months after the AO is issued.[25] The 18-month review is mandatory under the regulations: "[a]pproval orders issued by the executive secretary in accordance with the provisions of R307-401 shall be reviewed eighteen months after the date of issuance to

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[24] See Roosevelt Campobello, 684 F.2d at 1039.

[25] Exhibit 1 at 5, AR at 4336 ("If construction and/or installation has not been completed within eighteen months from the date of this AO, the Executive Secretary shall be notified in writing on the status of the construction and/or installation. At that time, the Executive Secretary shall require documentation of the continuous construction and/or installation of the operation and may revoke the AO in accordance with R307-401-11."); see also Utah Admin. Code R307-401-18 (formerly R307-401-11).

determine the status of construction …. If a continuous program of construction … is not proceeding, the executive secretary may revoke the approval order."[26]

The Administrative Record reflects that IPSC did not notify the Executive Secretary of the status of the project as required under the terms of the permit, and that the Executive Secretary did not conduct the review required by regulation in April 2006.[27] This absence of this mandatory review prevented the Executive Secretary from assessing whether any changed circumstances warranted revocation of the AO after the eighteen months during which construction had not begun. Because the AO automatically expired in April 2006, and because the Executive Secretary failed to conduct the mandatory 18-month review required under the regulations and permit conditions, the Board must remand this matter to the DAQ for IPSC to submit a revised Notice of Intent to DAQ, based on current circumstances and conditions, to obtain approval to construct Unit 3.

2. The Board Must Remand the Unit 3 Permit Decision Because DAQ's Approval of IPSC's Request to Modify the AO to Allow Installation of a Supercritical Boiler Was Arbitrary and Capricious and Unlawful (Statements of Reasons # 20 & # 21).

Despite the expiration of the AO by operation of law in April 2006, on August 4, 2006, almost two years after the Executive Secretary signed the AO authorizing the construction and operation of the Unit 3 950 megawatt coal-fired unit at the Intermountain Power Plant, IPSC requested that it be allowed to change the technology for the proposed unit from a subcritical to a supercritical pulverized coal (PC) fired boiler. Exhibit 5, AR at 4473-77. On August 17, 2006, DAQ responded that, "in

[26] Utah Admin. Code R307-401-18 (emphasis added).
[27] See Exhibit 2 (Final Preliminary Index to the Administrative Record).

accordance with Condition 7" of the AO, a supercritical PC boiler is "equivalent" to the permitted subcritical unit, thereby approving the project changes. Exhibit 6, AR IPSC 4478. If the Board were to determine that the expiration of the AO alone does not justify remand to the DAQ, the Board must nevertheless remand the AO to DAQ because DAQ's decision to approve this AO modification was unlawful.

Importantly, there is no "equivalency" determination in the record. See Exhibit 2 (Final Preliminary Index to the Administrative Record). As evidenced in the Administrative Record, DAQ undertook no independent analysis of IPSC's statements regarding comparisons between subcritical and supercritical technology at Unit 3. Id. Moreover, DAQ did not give the public either notice of or the opportunity to comment on the IPSC request, the company's statements, or any assumptions about "equivalency."[28] Id. Nor was the public permitted to submit evidence or argument prior to the Executive Secretary's decision, that a change in technology warranted a substantial reduction in emission limits in the AO. Id.

In approving the technology change, DAQ did not change any other terms and conditions of the AO to reflect the increase in efficiency that is achieved with supercritical technology. AR at 4478. Specifically, the agency did not reduce emission limits in any way to secure a benefit to public health, the environment or visibility from the improved technology. Id. Nor did the agency change the generating capacity for Unit 3 specified in the AO.

It is true, that in its Request for Agency Action, Sierra Club argued, and still argues, that a supercritical boiler would be superior to a subcritical boiler for Unit 3 in

[28] Because there is no DAQ analysis in the record, the public was prohibited from commenting on this analysis as well.

terms of gains to the public health, environment and visibility. Exhibit 7, AR IPSC 4496. This contention was based on the fact that a supercritical boiler for the 950 gross megawatt power plant would produce significantly lower emissions of criteria pollutants, as well as CO_2, and that, after proper BACT analysis,[29] the terms and conditions of the AO would reflect these lower emission rates. Id. However, as the AO now stands, after the August 17, 2006 amendment, a supercritical unit may be installed at Unit 3, with no attendant decrease in hourly emissions or other restrictions, such as on maximum heat input capacity or annual amount of coal burned, that would ultimately limit emissions. Exhibit 6, AR IPSC 4478. Instead, the amended AO allows IPSC to generate more electricity than specified by the AO terms and conditions and, as a result, to produce the same amount of air pollution.

IPSC itself states that there are "environmental benefits" from using a supercritical boiler. Exhibit 5, AR at 4473 ("[W]e have concluded that a supercritical boiler design is more efficient and better for the environment."). Because Sierra Club was unlawfully prevented from commenting on the technology change, and because the AO, as modified, does not reflect – through lower emissions limitations – what IPSC itself states are the environmental benefits of a supercritical boiler, Sierra Club respectfully asks the Board to reverse DAQ's decision to approve the technology change and remand the AO to the agency so that the decision can be made according to the law.

Specifically, as indicated below, DAQ's failure to provide for public notice and comment, as well as the decision to allow the technology change, is arbitrary and

[29] For purposes of this motion for summary judgment, Sierra Club is not arguing what BACT determination DAQ must make on remand. Rather, the undisputed facts in the record show that BACT must be different because DAQ's equivalency determination was arbitrary.

capricious and contrary to the law. The DAQ approval of the equipment modification: 1) violates Condition 4 of the AO and the public notice and comment requirements of Utah Admin. Code R307-401-7; 2) fails to reconcile Condition 4 and Condition 7 as is required by a plain reading of the AO; 3) relies on an "equivalency" determination that is not supported by the Administrative Record, and is incorrect based on undisputed facts in the record; and 4) allowing the change in technology, as proposed by IPSC, will violate the AO.

Under Condition 4 of the AO, DAQ's Approval of the Supercritical Technology Change is Unlawful.

Condition 4 of the AO provides that "[m]odifications to the equipment or processes approved by this AO that **could affect** the emissions covered by this AO must be reviewed and approved in accordance with R307-401-1."[30] Condition 4 reflects the purpose and the letter of the Utah Air Conservation Act, as well as the Clean Air Act, to **prevent** air pollution.[31] Therefore, where a modification "could affect" emissions – either by increasing them or decreasing them – the Executive Secretary must reexamine the AO according to R307-401-1, always with the goal of preventing pollution if the law so dictates.

That the basic technology change for Unit 3 from subcritical to supercritical PC coal fired power unit "could affect the emissions" covered by the AO is without doubt. Therefore, under its own terms and conditions, the AO "must be reviewed and approved"

[30] Exhibit 1 at 3, AR IPSC 4334 (emphasis added).
[31] Utah Code Ann. § 19-2-101(4)(a) (stating the purpose of the Act as to "provide for a coordinated statewide program for air pollution prevention, abatement, and control."); see also 42 U.S.C. § 7401(c) (Congressional declaration that the primary purpose of the Clean Air Act is air pollution prevention).

pursuant to Rule R307-401-1.[32] R307-401-1 sets out detailed "application and permitting requirements for new installation," including public notice requirements. Utah Admin. Code R307-401-7. As DAQ did not comply with these requirements prior to its acquiescence to the technology change, its decision and the AO modification is unlawful.

IPSC itself states that emissions "could change" if Unit 3 were a supercritical rather than a subcritical boiler. For example, in its August 4, 2006 letter requesting the change to supercritical technology, IPSC states plainly: "Installation of a supercritical boiler **will result in a net decrease in emissions** as measured in lb/MWh." Exhibit 5 at 3, AR IPSC 4475 (emphasis added); see also Exhibit 8 (Koucky Declaration), ¶ 5 (agreeing with IPSC statement and stating "[b]ecause a supercritical boiler is more thermally efficient, this technology should produce[] lower emissions of criteria pollutants and carbon-dioxide per megawatt generated when compared to a subcritical boiler in the same operation."). Again, in response to Sierra Club's May 20, 2004 comment on the draft AO that DAQ was obligated to consider supercritical boiler technology as BACT because of reduced emissions of CO_2 and criteria pollutants, IPSC affirmed:

> With the low proposed emission limits for SO_2, NO_X, and particulates [in the draft AO], the actual reduction in tons per year does not warrant the increase in capital costs, safety, and equipment compatibility issues associated with a supercritical boiler.

Exhibit 3, AR at 3891. Thus, IPSC concedes that "a net decrease in emissions as measured in lb/MWh" and "actual reductions in tons per year" of SO_2, NO_X, and

[32] Utah Admin.Code R307-401-1 states in part: "This rule establishes the application and permitting requirements for new installations and modifications to existing installations throughout the State of Utah."

particulates can be realized with the installation of a supercritical boiler for Unit 3.[33] This plainly meets the standard of Condition 4 that the proposed change in equipment – to supercritical technology – "could affect" emissions, thereby triggering review and approval in accordance with R307-401-1. Exhibit 1 at 3, AR IPSC 4334 (Condition 4).

IPSC's statements also reflect the conclusions of comprehensive analysis undertaken by EPA.[34] In its thorough comparison of the environmental impacts and costs of various types of power generation plants, including subcritical and supercritical boilers, EPA found that supercritical boilers produce substantially less SO_2, NO_X, CO, VOCs, particulate matter (including PM_{10}), lead, mercury, and acid mist, as well as less CO_2 and solid waste when measured in pounds per megawatt hour. Exhibit 9, EPA Doc at 3-21 to 3-22. [35] Importantly, when these rates are compared to those in the AO also expressed in pounds per hour, the emission rates for the supercritical boiler are lower than those in the AO. Exhibit 1 at 6, AR at 4337 (Condition 9).

Thus, based on IPSC's own admissions, the change in technology from a subcritical to a supercritical boiler **will** affect emissions covered by the AO. As a result, R307-401-1 is triggered and public notice and comment, as well as other detailed review procedures – including setting more stringent emissions limits in the permit – are

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[33] That emission of pollutants would be reduced was the basis for Sierra Club's comments on the failure of DAQ to complete BACT analysis for a supercritical boiler for Unit 3. Exhibit 7, AR at 4496.

[34] In July 2006, EPA issued a report entitled "Environmental Footprints and Costs of Coal-Based Integrated Gasification Combined Cycle and Pulverized Coal Technologies." The complete report is available at http://www.epa.gov/air/caaac/coaltech/2007_01_epaigcc.pdf and portions are attached to this memorandum at Exhibit 9 (referenced as "EPA Doc").

[35] Mr. Koucky also states that EPA has found in its July 2006 Report that "supercritical PC technology results in lower expected emissions expressed in pound per megawatt hour." Exhibit 8, ¶ 7.

required before the modification can be approved. The Executive Secretary's failure to meet his R307-401-1 obligations is unlawful and the AO must be remanded.

Condition 4 Remains in Effect Despite Any Purported Equivalency Determination.

In his letter approving the Unit 3 technology change, the Executive Secretary stated that, under Condition 7, supercritical boiler technology is "equivalent" to the subcritical technology permitted by the AO. Exhibit 6, AR IPSC 4478. This equivalency determination, in turn, served as an approval of the design change. Condition 7 requires for Unit 3 the installation of a subcritical unit – a dry-bottom pulverized coal fired boiler – or the equivalent equipment. Exhibit 1 at 3-4, AR IPSC 4334-35. Thus, in finding the supercritical boiler equivalent to the subcritical boiler, the Executive Secretary sanctioned the substitution of one technology for another.

However, Condition 4 still applies and must be understood in concert with Condition 7. Condition 4 requires compliance with R307-401-1 whenever "modifications to the equipment or processes approved by this AO . . . could affect" regulated emissions. Exhibit 1 at 3, AR at 4334. Read together, Condition 4 **and** Condition 7 dictate that even where there is a substitution of "equivalent equipment," if this "modification to the equipment or processes . . . could affect" emissions, compliance with R307-401-1 is required prior to approval of the change. This is the only way to give effect to the two AO conditions. Moreover, there is nothing in the AO, or Condition 7 specifically, to suggest that Condition 7 somehow trumps Condition 4. This further underscores that the two Conditions must both be given meaning.

In addition, there is nothing in DAQ's regulations to suggest that, particularly as applied here by the Executive Secretary, Condition 7 is appropriate. The regulations do

not foresee a situation where the Executive Secretary has authority to modify an AO, previously approved under the detailed provisions of R307-401-1, to allow a change to basic design of the facility that "could affect" emissions, while sidestepping his R307-401-1 obligations. This effort to take a modification of an AO out of the R307-401-1 is not in keeping with DAQ regulations or the guarantee of these rules that the public will be allowed to participate in important permitting decisions that affect Utah's airsheds.

Given that Condition 4 cannot be ignored based on an "equivalency determination," the Executive Secretary violated, or sanctioned the violation of, the Condition by allowing supercritical technology substitution without compliance with Utah Admin. Code R307-401-1. As a result, his decision runs afoul of the AO and is unlawful, arbitrary and capricious.

As Proposed by IPSC, the Supercritical Boiler is Not Equivalent to the Approved Subcritical Boiler.

As established above, Condition 4 is not nullified by an equivalency determination. In any case, however, the record shows that the supercritical boiler, as proposed by IPSC, is **not** equivalent to the permitted subcritical boiler. Therefore, the Executive Secretary's determination of equivalency is invalid and cannot justify the technology change.

In response to IPSC's request for permission to replace the technology for Unit 3, the Executive Secretary stated that "a supercritical PC boiler is equivalent to the permitted unit." Exhibit 6, AR at 4478. For several reasons, this conclusion is arbitrary. First, there is nothing in the record to support this conclusion or to provide a basis for it. See Exhibit 2.

The Executive Secretary has given no explanation for his determination. Therefore it is not supported by the Administrative Record and must be rejected. This is particularly true given the paucity of information and analysis on which the "equivalency" assessment was apparently based – the August 4, 2006 letter. The August 4, 2006 letter gives perfunctory treatment to BACT analysis, and does not even provide a source of its efficiency analysis and fails to suggest type of coal being considered. Exhibit 5 at 3, AR IPSC 4475 (discussion of BACT); Exhibit 5 at 2, AR IPSC 4474 (efficiency). That the Administrative Record is inadequate to support an "equivalency" determination is also underscored by the fact that both DAQ and IPSC adamantly rejected supercritical technology for Unit 3. Exhibit 4, AR IPSC 4297 (DAQ); Exhibit 3, AR IPSC 3891(ISPC). To justify such a reversal in position requires more than silence in the record and a refusal to allow the public to weigh in on the analysis.[36]

Second, what the record **does** show is that the supercritical boiler, as proposed by IPSC, is **not** equivalent to the permitted subcritical boiler.[37] This is because, as IPSC itself attests, the supercritical boiler will be more efficient than the subcritical boiler. Exhibit 5 at 2, AR IPSC 4474. While IPSC calculates this increased efficiency at 2 to 3 percent, id., a more accurate determination is that the supercritical boiler will be approximately 7 to 9 percent more efficient than the subcritical boiler. Exhibit 9, EPA Doc at 3-3; Exhibit 10 (Thompson Declaration), ¶¶ 8-11. In any case, as IPSC states, the

[36] Sierra Club reiterates that, in this motion for summary judgment, the undisputed fact that a supercritical boiler could result in lower emissions is sufficient for a remand to DAQ for review of the modification and re-analysis of BACT. Sierra Club is **not** arguing in this motion what form that BACT analysis should take.

[37] Of course, because a supercritical boiler "could affect" emissions by resulting in lower emissions, it is not equivalent to a subcritical boiler. Therefore, for all the reasons that Condition 4 is triggered by the technology change, Condition 7 cannot be met.

improved efficiency of the supercritical design "increas[es] the power output of the steam turbine-generator for the same coal burned in the boiler." Exhibit 5 at 2, AR IPSC 4474. Yet, IPSC also states in its design change proposal that it will **not** increase the heat input rate or the coal feed rate in the AO. Exhibit 5 at 2 and "Exhibit 1," AR IPSC 4474, 4477. This means, based on IPSC's own statements, with the same amount of coal being burned in the supercritical boiler, the power output will be increased. Id.

EPA's exhaustive comparison of subcritical and supercritical boilers bears this out. In that comparison, the federal agency determined that a supercritical unit using bituminous coal[38] has a net thermal efficiency (HHV) of 38.3 percent, and for subbituminous coal, of 37.9 percent. Exhibit 9, EPA Doc at 3-3. Importantly, EPA was examining a pulverized coal plant with supercritical steam conditions of 3,500 psig and 1050/1050ºF double reheat,[39] a configuration almost perfectly analogous to that suggested by IPSC. Exhibit 5 at 2, AR IPSC 4474. Using IPSC's figure for the efficiency of the subcritical boiler (with no coal type specified)[40] and EPA's numbers for the supercritical boiler reveals a efficiency increase of 7 percent for a supercritical boiler burning bituminous coal and a 6 percent efficiency for subbituminous coal.[41] Exhibit 9, EPA Doc at 3-3; AR IPSC 4474 (IPSC figures); Exhibit 10 (Thompson Declaration), ¶ 9.

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[38] Condition 19 of the AO limits fuel for Unit 3 to either "bituminous or blend of bituminous and up to thirty percent subbituminous coals."

[39] Exhibit 9, EPA Doc. at 1-1.

[40] The thoroughness of the EPA analysis coupled with IPSC's failure to provide a basis for its efficiency calculation or assumptions, such as coal type, underlying the calculation, underscores that the characteristics of these technologies must be understood at a deep level. This complexity confirms that the Executive Secretary must independently examine these figures and that the public must be given the chance to comment on this analysis.

[41] EPA bases its efficiency figures on a PC boiler with subcritical steam conditions of 2400 psig/1000/1000ºF. This is almost identical to IPSC's assumption of 2520 psig/1050/1050ºF. Exhibit 9, EPA Doc at 3-3; Exhibit 5 at 2, AR IPSC 4474.

Using EPA's figures for the PC boiler leads to a net efficiency increase of 6.7 percent and 8.9 percent from a subcritical to supercritical boiler using bituminous and subbituminous coal respectively.[42] Exhibit 9, EPA Doc at 3-3; Exhibit 10 (Thompson Declaration), ¶ 10.

Taking these conclusions together establishes that a supercritical Unit 3, operated as requested by IPSC, will be producing somewhere between 64 to 84 more megawatts than the subcritical Unit 3 approved in the AO. Exhibit 9, EPA Doc 3-3; Exhibit 10 (Thompson Declaration), ¶ 11. Said another way, a supercritical Unit 3 will be a 1014 to 1034 megawatt facility, instead of a 950 gross megawatt unit as approved by the AO. Id. This means supercritical technology for Unit 3 is not equivalent to subcritical technology – equipment that allows a plant to generate 1014 to 1035 megawatts is **not** equivalent to equipment that allows a plant to generate 950 megawatts. Exhibit 10 (Thompson Declaration), ¶ 12. As a result, the Executive Secretary's determination otherwise cannot withstand scrutiny.

Third, the two technologies are not equivalent because a proper BACT analysis for a supercritical boiler could and would lead to lower emission limits – or, at the very least, that BACT must be revisited for the supercritical technology. In requesting permission to build Unit 3 using a supercritical boiler, IPSC has admitted both that this supercritical design is technically feasible and not an excessive economic burden. Exhibit 5, AR IPSC 4473-4477 (August 4, 2006 Letter); Exhibit 3, AR IPSC 3891 (IPSC

[42] Interestingly, IPSC bases its net plant efficiency of 36.75 percent on a supercritical boiler design which "**typically** has a 3500 psig/1050/1100ºF steam power cycle . . . ." Exhibit 5 at 2, AR IPSC 4474 (emphasis added). This means that IPSC has **not** specified the exact design of the Unit 3 supercritical boiler, but assumes a design almost identical to that assumed by EPA.

noting that economic considerations disfavored supercritical technology). Moreover, as IPSC admits and EPA confirms, a supercritical boiler has lower hourly emissions. See supra pages 17-18, 22-23. These factors together demonstrate that the modified AO's BACT analysis is flawed for not requiring lower emission rates, Exhibit 8 (Koucky Declaration), ¶ 9, and mandates that a new BACT analysis for the project is required. This, in turn means that the two technologies are **not**, and cannot be, equivalent.

Fourth, the supercritical boiler, as proposed by IPSC, cannot be equivalent to the previously-approved subcritical boiler because the AO terms and conditions written for the subcritical technology do not make sense when applied to the supercritical technology. For example, to determine the 633.5 lb/hr NO_x emission limit of Condition 9, DAQ multiplied the maximum heat input rate of the Unit 3 boiler (9050 MMBtu/hr) by the NO_x BACT emission limit for a 30-day rolling average (0.07 lb/MMBtu). Exhibit 1 at 5-6, AR IPSC 4336-37. If IPSC were to operate the supercritical boiler to produce the 950 megawatts gross authorized in the AO, then the maximum heat input capacity of the supercritical boiler would be lower for the purposes of this calculation. This means that, using DAQ's own analysis, the pound per hour NO_x limit should be lower to reflect the decreased heat input. Should the pound per hour NO_x limit be held the same, while the technology is changed, the permit terms would also no longer reflect reality and therefore would be arbitrary.[43]

Thus, examined from every angle, the undisputed facts establish that the Executive Secretary's equivalency determination is invalid. It lacks any basis in the

[43] Of course, if the maximum heat input for the supercritical boiler were not lowered, but allowed to stay the same, then Unit 3 would no longer be a 950 gross megawatt facility, but would be a 1007 or 1035 megawatt facility, and again, the AO would not reflect reality and would be arbitrary.

record. The conclusion conflicts with IPSC's own statements and is contrary to EPA's comprehensive analysis of the increased efficiency of supercritical boilers compared to subcritical units. As a result, the Executive Secretary's conclusion must be rejected in favor of a finding that supercritical technology, as proposed by IPSC is not equivalent to the subcritical equipment authorized by the AO.

Approval of Unit 3 as a Supercritical Boiler Will Violate the AO.

Condition 6 of the AO states that IPSC "**shall** install and operate the nominal 950 gross-MW power generating Unit 3 with dry-bottom pulverized coal fired boiler . . . as defined by this AO, in accordance with the terms and conditions of this AO . . . ." Exhibit 1 at 3, AR IPSC 4334. If allowed, as IPSC requested and the Executive Secretary approved, to install a supercritical boiler and to keep coal feed rate and heat input the same, IPSC will not be operating a 950 megawatt power generating unit. Instead, it will be operating a 1007 to 1036 megawatt power generating unit. As approval of this technology and this heat input rate will violate Condition 6 of the permit, the August 2006 modification to the AO is invalid.

CONCLUSION

For the foregoing reasons, on the undisputed facts in the record, the AO to construct Unit 3 is invalid, and the DAQ's decision to approve a modification to supercritical boiler technology was arbitrary, capricious, and contrary to law. Sierra Club requests that the Board grant summary judgment on the claims in Statements of Reasons # 20, # 21, and # 22 and remand this matter to the DAQ for IPSC to submit a revised Notice of Intent to DAQ, based on current circumstances and conditions, to obtain approval to construct the proposed plant.

Dated: February 26, 2007

___/s/_____
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CERTIFICATE OF SERVICE

I hereby certify that on this 26th day of February 2007, I caused a copy of the foregoing Motion for Summary Judgment and Memorandum in Support of Motion to be emailed to the following:

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